

I Claim:

1. A cutting tool comprising:

a body of sintered cemented carbide, cermet or ceramic; and

5 a hard and wear resistant coating applied on at least a functioning portion of a surface of the body, wherein said coating comprises a structure of one or more refractory layers of which at least one layer consists essentially of an equiaxed fine grained κ -Al₂O₃ with a thickness of 0.5-25 μ m and with a grain size of less than 0.5 μ m, and said fine grained κ -Al₂O₃ layer comprises at least one sublayer with a thickness between 0.02 and 3 10 μ m containing Al, Si and O with a Si concentration between 4-34 at%, Al concentration of 0-37 at% and O concentration of 60-67 at%.

2. The cutting tool according to claim 1, wherein the fine grained κ -Al₂O₃ is in contact with a TiC_xN_yO_z layer.

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3. The cutting tool according to claim 1, wherein the fine grained κ -Al₂O₃ is in contact with an α -Al₂O₃ layer.

20 4. The cutting tool according to claim 1, wherein the fine grained κ -Al₂O₃ layer has 1-200 sublayers containing Al, Si and O.

5. A method of coating a body with at least one fine grained κ -Al₂O₃ layer, the method comprising:

25 contacting the body with a reaction mixture comprising a hydrogen carrier gas, one or more halides of aluminium and a hydrolysing and/or oxidising agent at 800-1050 °C;

adding a sulphur agent to the reaction mixture to enhance the growth rate; and

depositing a κ -Al₂O₃ layer comprising at least one silicon enriched sublayer by periodically introducing a silicon halide.

6. The cutting tool according to claim 4, wherein the fine grained κ -Al₂O₃ layer has less than 100 sublayers.

7. The method according to claim 5, wherein the one or more halide of
5 aluminum is AlCl₃.

8. The method according to claim 5, wherein the oxidising agent is CO₂.

9. The method according to claim 5, wherein the sulphur agent is H₂S.

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10. The method according to claim 5, wherein the silicon halide is SiCl₄.